MINOX USA

A DIVISION OF E LEITZ INC • ROCKLEIGH NEW JERSEY 07647 • (201) 767-1100 • TELEX 135356

MINOX LX

Type 10600

SERVICE INFORMATION

SOLE U S DISTRIBUTOR FOR MINOX® CAMERAS AND ACCESSORIES

MINOX® USA TECHNICAL SERVICES DIVISON

A DIVISION OF E. LEITZ INC. • ROCKLEIGH NEW JERSEY 07647 • (201) 767-1100 • TELEX 135356

Introduction

All equipment related spare parts lists in Microfiche consist of exploded views, bill of materials and wiring diagrams, if applicable. The exploded views show the spare parts and sub-assemblies in the proper sequence of assembly. The bill of materials indicates the part numbers, descriptions, price groups (PG), and the required quantity for each unit, which may help you in ordering a sufficient number for your stock.

Parts requiring special lubricants are identified by special symbols as follows:

Lubricants: #340 □□□
#601 △△△
#704 ●●●
#53 ⧗⧗⧗
#54 ⧖⧖⧖
#55 +++
#56 ◘◘◘

Black Pitch: #52 ×××

In order to guarantee perfect functioning, only the above listed lubricants which have been tested and approved by us must be used; these lubricants can be obtained from us. A comprehensive list of lubricants is available on form number 001-300.500-003. All the information is also contained on microfiche number 001-300.600-001.

All parts requiring lubrication must be dry. Glass and rubbert parts must not come into contact with benzine, naphtha, oil or grease. Lazquered and engraved parts must not be moistened, but should be cleaned with a soft dry chamois leather or a brush. All parts and sub-assemblies should be cleaned outside the housing whenever possible.

Instructions for cleaning optical components may be obtained by ordering printed form #001-300.500-001. These instructions are also contained on microfiche #001-300.600-001.

How To Order Spare Parts

Please direct your parts orders by mail to Minox USA, Rockleigh, N.J. 07647, Attention: Photo Parts Department. (Do not place spare parts orders by telephone unless a genuine emergency exists. Because of the special handling and attention telephone orders require, we will have to assess an additional handling charge of $2.50 for these transactions).

Microfiche, continued

List the items you want with the parts numbers, descriptions, and the quantities desired. It is not necessary to list the price groups. This information is included so that you may estimate the cost of your parts order. For price information use price key WLE. All parts orders will be billed at net prices. (Parts ordered by description only will not receive the fastest service due to the necessary research involved. Orders which are not clear and can lead to false deliveries will be returned for clarification).

Full remittance, including applicable State and City Sales taxes and a flat fee for shipping and handling ($2.50 for written orders and $5.00 for phone orders) must accompany your order. We also accept MasterCard and Visa. Please copy all the information appearing on the face of your charge card. We do deliver parts orders C.O.D., if desired.

If you have a Tax Exemption Certificate, enter your certificate number on the order form. Unless you furnish this number, we are legally required to collect State and City taxes.

A back-order file is maintained should we temporarily be out of a certain part. You will be given an approximate delivery date.

Spare parts will not be accepted for credit returns unless it is found to be defective or it was shipped by us in error. No exchange or credit will be made if item(s) are not returned to us within ten (10) days of receipt of our shipment.

Prices and specifications are subject to change without prior notice. Do not order parts not listed in the spare parts list. Spare parts not listed are not available. We are under no obligation to deliver spare parts that are no longer manufactured.

We assume no responsibility for the repairs you may perform.

It is prohibited to copy or print our spare parts lists and other service information without written consent of E. Leitz, Inc.

SPARE PARTS LIST

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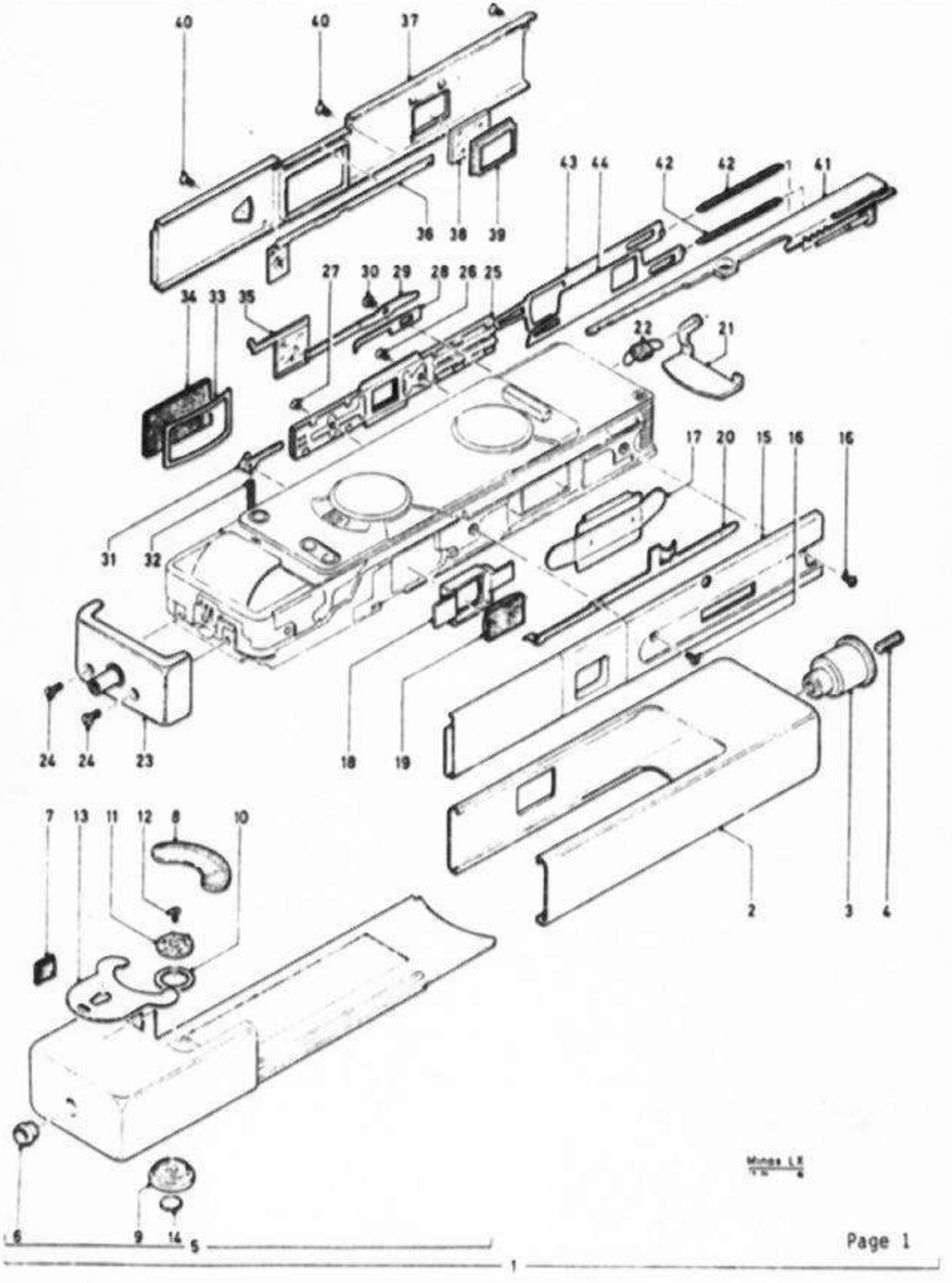
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Fig. No.	Part Number	P.G.	Part Description	Qty. per Unit
1	001-060.090-900	27	Sliding cover and sleeve assy.	1
	001-063.090-900	27	Sliding cover and sleeve assy., black	(1)
2	001-060.090-200	19	. Sleeve assy.	1
	001-063.090-200	19	. Sleeve assy., black	(1)
3	001-060.090-220	11	. . Stand bush, assy.	1
	001-063.090-220	11	. . Stand bush, assy., black	(1)
4	000-000.020-268	2	. . Setscrew M 2 x 3.5 mm	1
5	001-060.090-100	24	. Sliding cover assy.	1
	001-063.090-100	24	. Sliding cover assy., black	(1)
6	001-060.090-132	9	. . Closing ring	1
	001-063.090-132	10	. . Closing ring, black	(1)
7	001-060.090-133	1	. . Measurement window	1
8	001-060.090-125	8	. . DIN-ASA window	1
9	001-060.090-141	9	. . DIN-ASA button	1
	001-063.090-141	10	. . DIN-ASA button, black	(1)
	000-000.031-134	1	. . Washer 7.95 ø x 6.85 ø x 0.05 mm	(1)
10	000-000.031-076	2	. . Washer 8.4 ø x 5.2 ø x 0.15 mm	1
11	001-060.090-142	3	. . Thrust plate	1
12	000-000.030-077	2	. . Countersunk screw M 1.2 x 1.4 mm	1
13	001-060.090-143	2	. . Leaf spring	1
14	001-060.090-306	2	DIN-ASA plate	1
	001-063.090-306	2	DIN-ASA plate, black	(1)
15	001-060.080-301	12	Back plate	1
	001-063.080-301	13	Back plate, black	(1)
16	000-000.030-003	1	Countersunk screw M 1.4 x 2.1 mm	2
17	001-030.070-800	10	Film pressure plate, assy.	1
18	001-060.080-231	3	Eyepiece holder	1
19	001-040.082-003	7	Eyepiece	1
20	001-030.070-600	8	Pressure slide, assy.	1
21	001-060.080-001	10	Slip hook	1
	001-063-080-001	11	Slip hook, black	(1)
22	000-000.035-015	2	Tension spring 2.7 ø x 3.8 x 0.3 mm	1
23	001-060.050-210	12	Inside cap, assy.	1
	001-063.050-210	12	Inside cap, assy., black	(1)

Fig. No.	Part Number	P.G.	Part Description	Qty. per Unit
24	000-000.030-005	1	Countersunk screw M 1.4 x 2.6 mm	2
25	001-060.020-510	12	Plate guide assy.	1
26	000-000.030-003	1	Countersunk screw M 1.4 x 2.1 mm	1
27	000-000.030-039	2	Countersunk screw M 1.4 x 1.5 mm	1
28	001-060.080-005	2	Latch spring	1
29	001-060.080-006	2	Brake spring	1
30	000-000.030-073	2	Cheese-head screw M 1.4 x 1.8 mm	1
31	001-060.080-401	3	Pointer	1
32	001-060.080-402	1	Compression spring 1.2 ø x 5.5 x 0.12 mm	1
33	001-030.080-206	3	Pressure frame	1
34	001-030.080-205	12	Viewfinder window	1
35	001-060.080-410	15	Grey filter assy.	1
36	001-060.080-420	12	Filter slide assy.	1
37	001-060.080-500	19	Front plate assy.	1
	001-063.080-500	20	Front plate assy., black	(1)
38	001-040.080-002	14	. Lens window	1
39	001-040.080-003	7	. Window frame	1
40	000-000.030-074	2	Countersunk screw M 1.2 x 2 mm	2 (3)
41	001-060.020-710	14	Rack, assy.	1
42	001-040.059-000	8	Blade spring assy.	2
43	001-030.020-700	8	Vane I assy	1
44	001-060.020-730	8	Vane II assy.	1

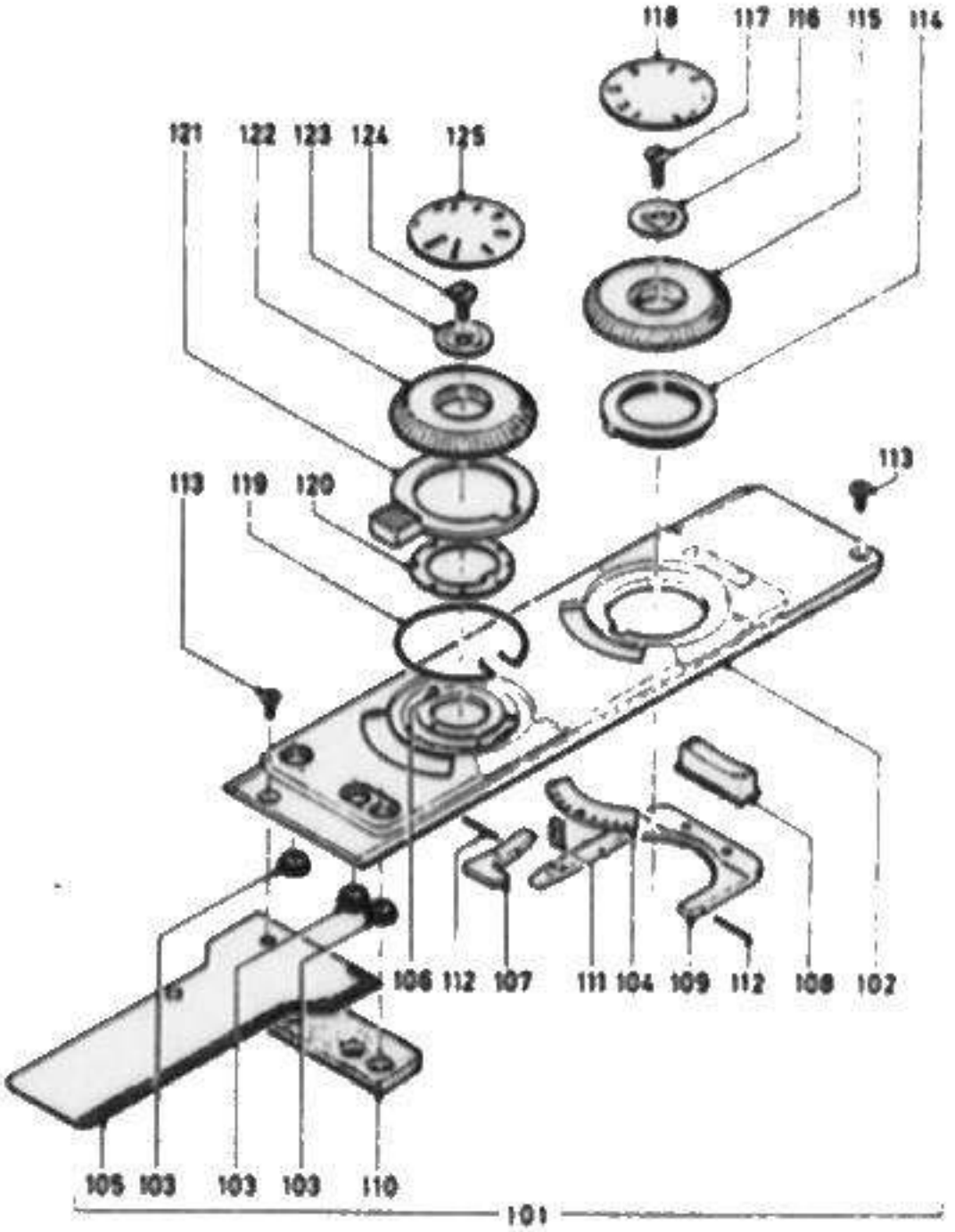
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Fig. No.	Part Number	P.G.	Part Description	Qty. per Unit
101	001-060.080-100	25	Cover plate assy.	1
	001-063.080-100	25	Cover plate assy., black	(1)
102	001-060.080-101	21	. Cover plate	1
	001-063.080-101	22	. Cover plate, black	(1)
103	001-060.080-102	4	. Hood	3
104	001-060.080-103	9	. Counter window	1
105	001-060.080-104	4	. Battery strap	1
106	000-000.022-004	1	. Ball 1 ø mm	1
107	001-060.080-105	4	. Rocker arm	1
108	001-060.080-108	10	. Shutter release	1
	001-063.080-108	11	. Shutter release, black	(1)
109	001-060.080-150	14	. Rocker, assy.	1
110	001-060.080-115	3	. Sealing plate	1
111	000-000.035-040	1	. Compression spring 1.35 ø x 2.6 x 0.16 mm	1
112	000-000.034-030	1	. Straight pin 0.5 ø x 4 mm	3
113	000-000.030-072	1	Countersunk Phillips M 1.4 x 3 mm	2
114	001-060.080-601	3	Slide ring	1
	000-000.031-133	1	Washer 13 ø x 8.7 ø x 0.15 mm	(1)
115	001-060.080-611	10	Focus dial	1
	001-063.080-611	10	Focus dial, black	(1)
116	001-060.080-613	2	Spring washer	1
117	000-000.020-187	1	Countersunk M 1.6 x 5 mm	1
118	001-060.090-301	5	Focus scale, meters	1
	001-062.090-301	5	Focus scale, feet	(1)
	001-063.090-301	6	Focus scale, meters, black	(1)
	001-064.090-301	6	Focus scale, feet, black	(1)
119	001-060.080-701	3	Annular spring	1
120	001-060.080-702	2	Latch ring	1
121	001-060.080-703	9	Indicator button	1
	001-063.080-703	10	Indicator button, black	(1)
122	001-060.080-704	10	Shutter speed dial	1
	001-063.080-704	11	Shutter speed dial, black	(1)
123	001-060.080-723	2	Friction spring	1
124	000-000.030-067	2	Cheese-head screw M 1.2 x 2.2 mm	1

Fig. No.	Pa : Number	P.G.	Part Description	Qty. per Unit
125	001-060.090-302	5	Shutter speed scale	1
	001-063.090-302	6	Shutter speed scale, black	(1)

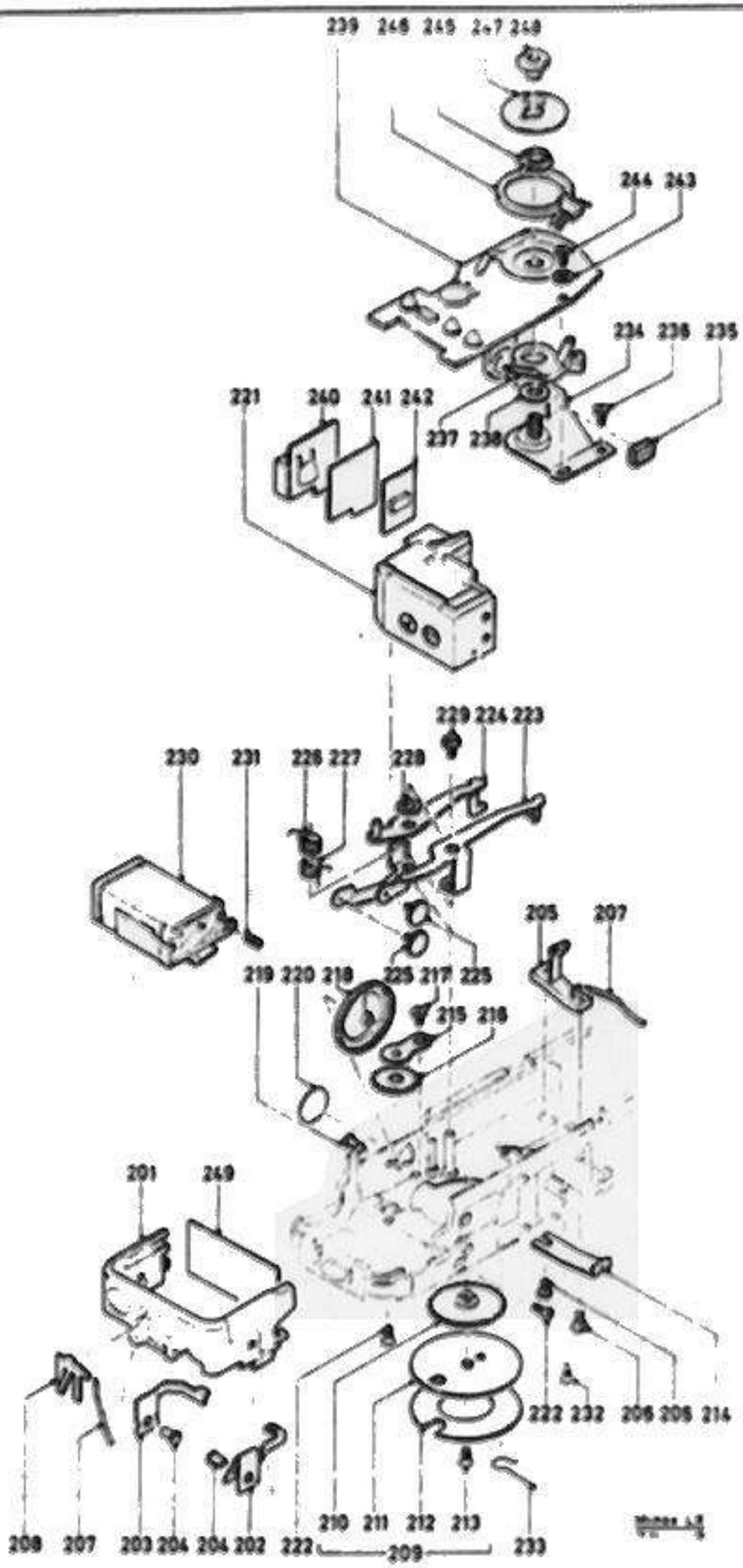
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Fig. No.	Part Number	P.G.	Part Description	Qty. per Unit
201	001-060.050-110	12	Battery holder, riveted	1
202	001-060.050-112	4	. Battery spring contact	1
203	001-060.050-113	7	. Battery contact	1
204	000-000.023-002	1	. Eyelet 1.5 ø x 2.5 mm	2
205	001-060.020-310	11	Synchro holder assy.	1
206	000-000.030-068	2	Cheese-head screw M 1.4 x 2.2 mm	2
207	001-060.020-326	2	Connection wire 85 mm	1
208	001-060.020-325	3	Contact spring	1
209	001-060.010-200	16	Clutch disc, assembled	1
210	001-060.010-210	8	. Gearwheel, riveted	1
211	001-060.010-220	14	. Clutch disc, bonded	1
212	001-060.010-222	3	. . DIN - ASA ring	1
213	000-000.030-003	1	. Countersunk screw M 1.4 x 2.1 mm	1
214	001-060.010-226	2	Leaf spring	1
215	001-060.010-250	4	Bearing plate, riveted	1
216	001-060.010-241	3	Intermediate gear	1
217	000-000.030-066	2	Cheese-head shoulder screw M 1.4 x 1.2 mm	1
218	001-060.010-230	12	Crown gear, bonded (optical wedge)	1
219	001-060.010-233	2	Bearing pin	1
220	001-080.050-007	6	Compensation filter 15, 20 ... 80, 85%	1
221	001-060.020-800	21	Shutter magnet assy.	1
222	000-000.030-072	1	Countersunk Phillips screw M 1.4x3 mm	2
223	001-060.020-100	17	Shutter lever I assy.	1
224	001-060.020-200	16	Shutter lever II assy.	1
225	001-060.020-115	9	. Plate screw	2
226	001-060.020-221	2	Torsion spring I	1
227	001-060.020-222	2	Torsion spring II	1
228	000-000.031-073	2	Washer 3.4 ø x 2 ø x 0.1 mm	1
229	000-000.030-067	2	Cheese-head screw M 1.2 x 2.2 mm	1
230	001-060.080-200	19	Viewfinder assy.	1
231	000-000.030-076	2	. Adjusting screw M 1.2 x 2.5 mm	1
232	001-060.080-221	4	Bearing screw	1
233	001-060.080-222	2	Viewfinder spring	1

Fig. No.	Part Number	P.G.	Part Description	Qty. per Unit
234	001-060.020-410	11	Carrier plate assy.	1
235	001-060.020-413	2	. Damping plate	1
236	000-000.030-069	2	Cheese-head screw M 1.2 x 1.8 mm	1
237	001-060.060-110	9	Switching arm assy.	1
238	000-000.031-123	1	Washer 3.5 ø x 2 ø x 0.1 mm	1
239	001-060.060-200	33	Printed circuit board assy.	1
240	001-060.060-220	22	. Timing circuit PCB assy.	1
241	001-060.060-230	18	. Indicator PCB assy.	1
242	001-060.060-240	16	. Battery PCB assy.	1
243	000-000.031-100	2	Washer 2.4 ø x 1.2 ø x 0.2 mm	1
244	000-000.030-070	2	Cheese-head screw M 1.2 x 2.2 mm	1
245	001-060.060-360	10	Ring slide assy.	1
246	001-060.060-310	10	Indicator ring assy.	1
247	001-060.060-350	10	Pot. ring assy.	1
248	001-060.060-355	6	Shoulder nut	1
249	001-060.080-121	2	Cover wall	1

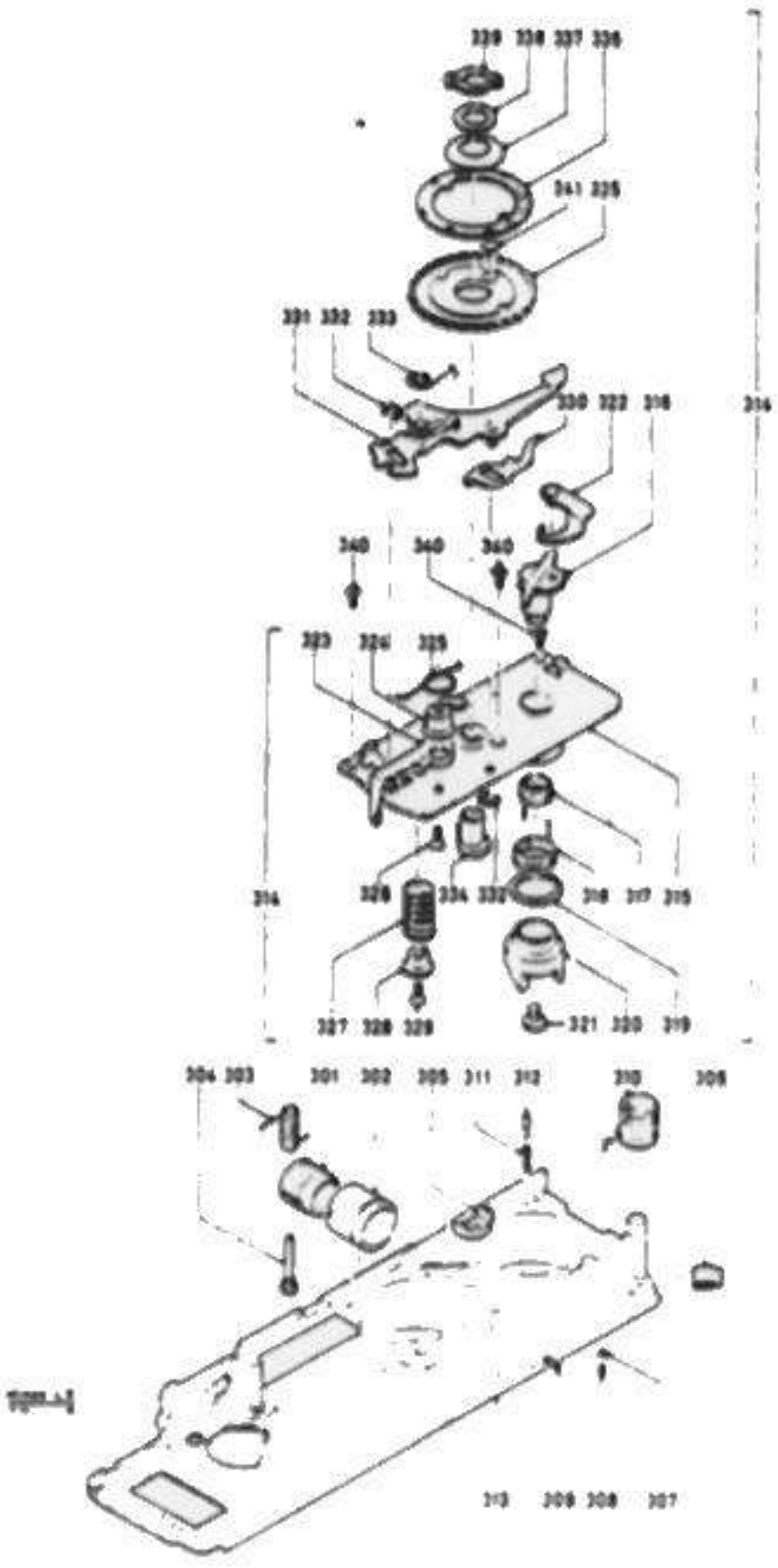
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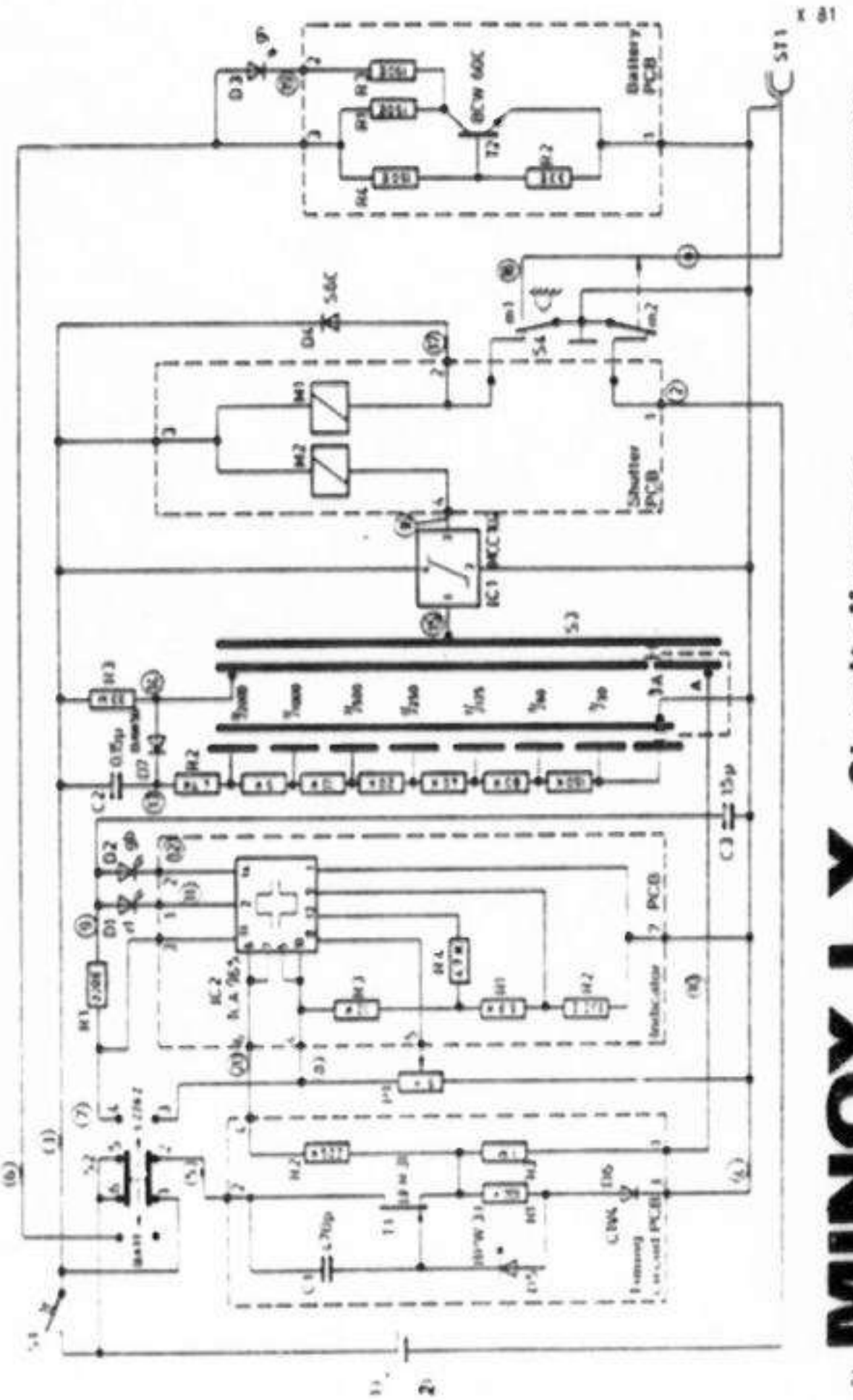
Fig. No.	Part Number	P.G.	Part Description	Qty. per Unit
301	001-060.040-100	37	Lens	1
302	001-060.040-001	12	Lens sleeve	1
303	001-060.040-101	2	Torsion spring	1
304	001-060.040-102	3	Bearing screw M 2 x 9.5 mm	1
305	001-060.029-001	3	Cap insert	1
306	001-040.050-007	5	Stop screw	1
307	001-040.086-003	1	Locking washer	1
308	000-000.030-037	2	Stud M 2 x 2.2 mm	1
309	000-000.030-065	2	Stud M 1.4 x 3.2 mm	1
310	001-060.030-355	3	Transport spring	1
311	000-000.035-003	1	Compression spring 1.3 ø x 5 x 0.2 mm	1
312	001-030.030-120	2	Latch pin	1
313	001-060.010-100	28	Body, riveted	1
314	001-060.030-000	26	Inside plate assy.	1
315	001-060.030-100	15	. Inside plate, riveted	1
316	001-060.030-200	15	. Transport wheel assy.	1
317	001-040.053-007	5	. Transport lock spring	1
318	001-040.053-008	4	. Return lock spring	1
319	000-000.-31-033	1	. Washer 8.4 ø x 6.9 ø x 0.05 mm	(1-2)
320	001-040.053-006	8	. Film bobbin gripper	1
321	000-000.030-012	2	. Cheese-head screw M 2.3 x 3 mm	1
322	001-060.030-350	6	. Transport wheel lever assy.	1
323	001-060.030-311	3	. Viewfinder lever	1
324	001-060.030-312	2	. Bush	1
325	001-060.030-315	2	. Viewfinder lever spring	1
326	000-000.030-005	1	. Countersunk screw M 1.4 x 2.6 mm	1
327	001-060.030-341	2	. Compression spring 4.9 ø x 7.4 x 0.4 mm	1
328	001-060.030-342	8	. Ejector	1
329	001-060.030-343	2	. Countersunk screw M 1.4 x 2.5 mm	1
330	001-030.090-402	2	. Film balance lever	1
331	001-060.030-320	12	. Tension lever assy.	1
332	000-000.021-017	1	. Locking washer 1.2 mm	2
333	001-060-030-325	2	. Helical compression spring	1

Fig. No.	Part Number	P.G.	Part Description	Qty. per Unit
334	001-060.030-335	16	. Adjusting cam	1
335	001-060.030-330	14	. Counting disc assy.	1
336	001-060.030-332	6	. . Counting ring	1
337	000-000.031-110	2	. Spring washer 9 ø x 4.7 ø x 0.08 mm	1
338	000-000.031-117	1	. Washer 6 ø x 3.6 ø x 0.1 mm	1
339	001-060.030-336	1	. Clamping ring	1
340	000-000.030-003	1	Countersunk screw M 1.4 x 2.1 mm	3
341	000-000.031-111	2	Washer 3 ø mm	1

Fig. No.	Part Number	P.G.	Part Description	Qty. per Unit
	001-060.060-200	33	Printed circuit board assy.	1
C 2	000-000.036-191	8	. Capacitor 0.15 uF	1
C 3	000-000.036-207	8	. Capacitor 1.5 uF	1
D 1	001-060.060-206	8	. LED red (overesposure)	1
D 2	001-060.060-207	10	. LED yellow (long time)	1
D 3	001-060.060-205	10	. LED green (battery check)	1
D 4	000-000.036-015	2	. Diode S 6 C or similar	1
D 7	000-000.036-314	8	. Diode BAW 56 or similar	1
IC 7	001-060.060-204	15	. Threshold detector MCC 102 or similar	1
P 1	000-000.036-261	10	. Trimming resistor 5 kOhm	1
R 1	000-000.036-296	4	. Resistor 220 Ohm	1
R 2	000-000.036.297	4	. Resistor 4.7 kOhm	1
R 3	000-000.036-313	8	. Resistor 33 MOhm	1
	001-060.060-220	22	. Timing circuit PCB assy.	1
C 1	000-000.036-263	2	. . Capacitor 470 pF	1
D 5	001-060.060-224	17	. . Photodiode BPW 33	1
	001-060.060-223	4	. . Cover frame for photodiode	1
D 6	000-000.036-300	6	. . Diode C1 V4 or similar	1
R 1	000-000.036-288	3	. . Resistor 100 KOhm	1
R 2	000-000.036-289	3	. . Resistor 220 KOhm	1
R 3	000-000.036-290	4	. . Resistor 1 MOhm	1
T 1	000-000.036-272	12	. . Transistor BFR 31 or similar	1
	001-060.060-230	18	. Indicator PCB assy.	1
IC 2	001-060.060-233		. . Window comparator TCA 965 K or similar	1
R 1	000-000.036-291	4	. . Resistor 6.8 KOhm	1
R 2	000-000.036-292	4	. . Resistor 330 Ohm	1
R 3	000-000.036-293	3	. . Resistor 10 KOhm	1
R 4	000-000.036-297	4	. . Resistor 4.7 KOhm	1
	000-000.036-292	4	. . Resistor 330 Ohm	(1)
	001-060.060-240	16	. Battery PCB assy.	1
R 1	000-000.036-294	3	. . Resistor 150 Ohm	1

Fig. No.	Part Number	P.G.	Part Description	Qty. per Unit
R 2	000-000.036-295	3	. . Resistor 33 Ohm	1
R 3	000-000.036-294	3	. . Resistor 150 Ohm	1
R 4	000-000.036-294	3	. . Resistor 150 Ohm	1
T 2	000-000.036-264	4	. . Transistor BCW 60 C or similar	1



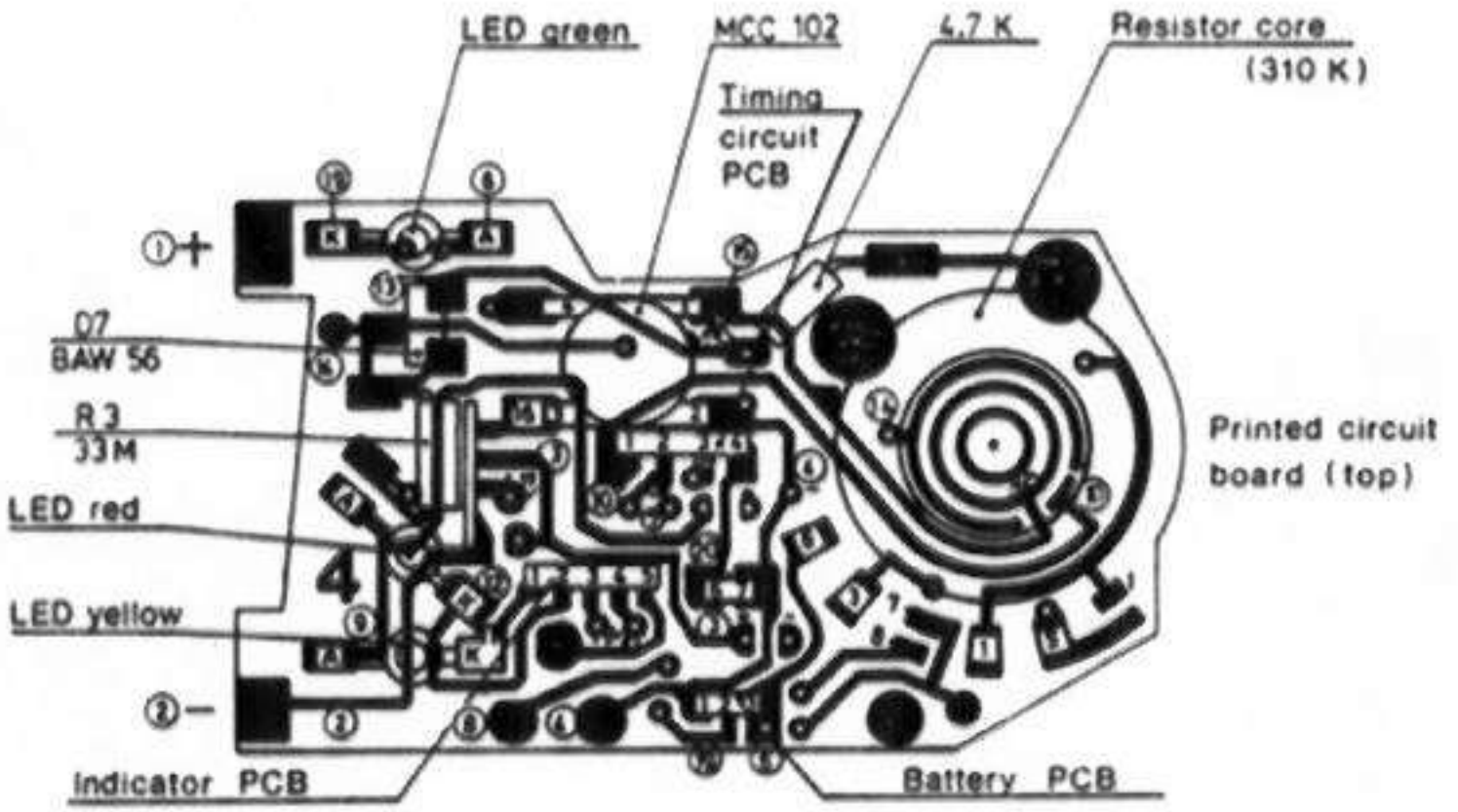
MINOX LX Circuit diagram as of no. 2500001

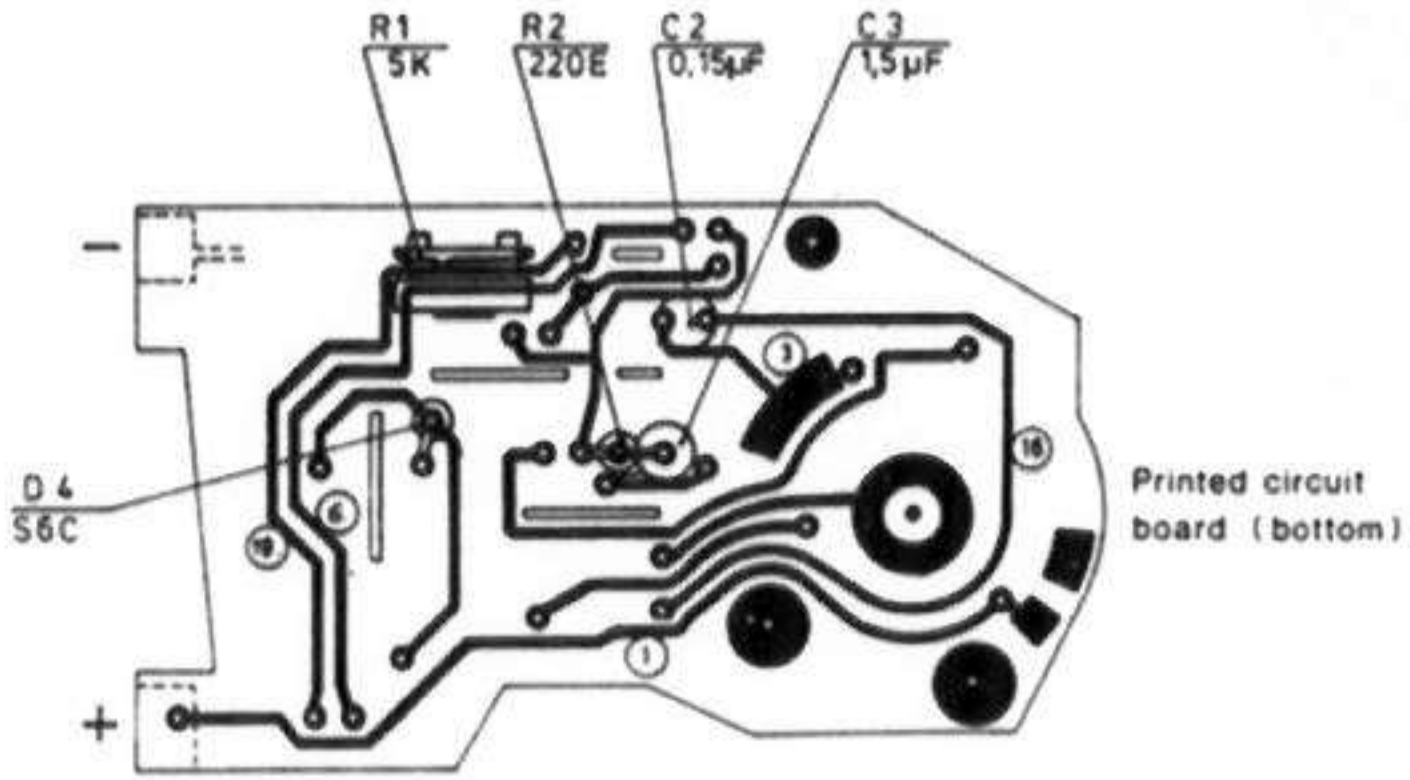
MINOX LX

as of camera no. 2500001

Connection and test points:

Fig. 1 Printed circuit board assy. 10600 60200





MINOX LX

as of camera no. 2500001

Connection and test points:

Fig. 2

Shutter PCB
on shutter magnet assy.
10600 20800

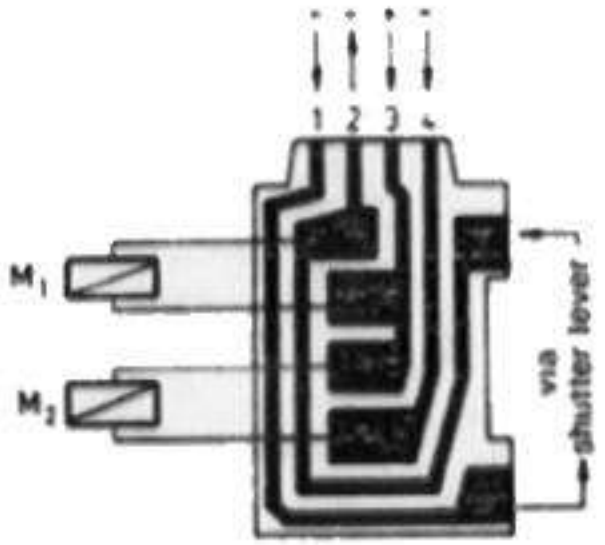


Fig. 3

Timing circuit PCB
10600 60220

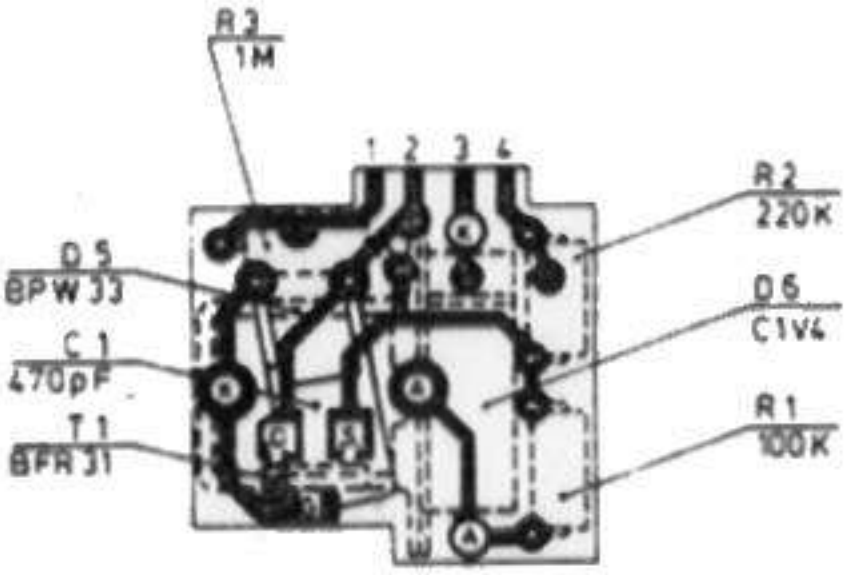


Fig. 4

Battery PCB
10600 60240

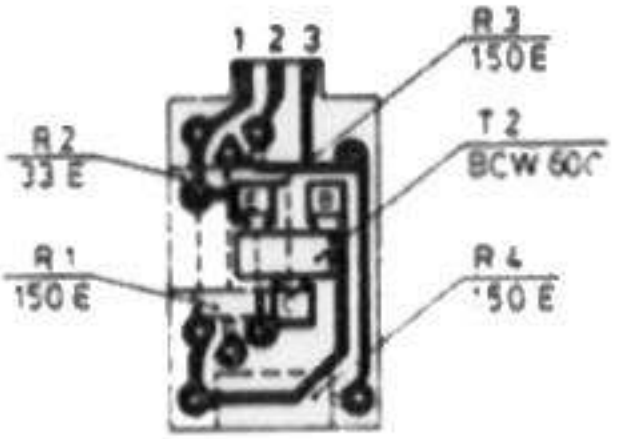
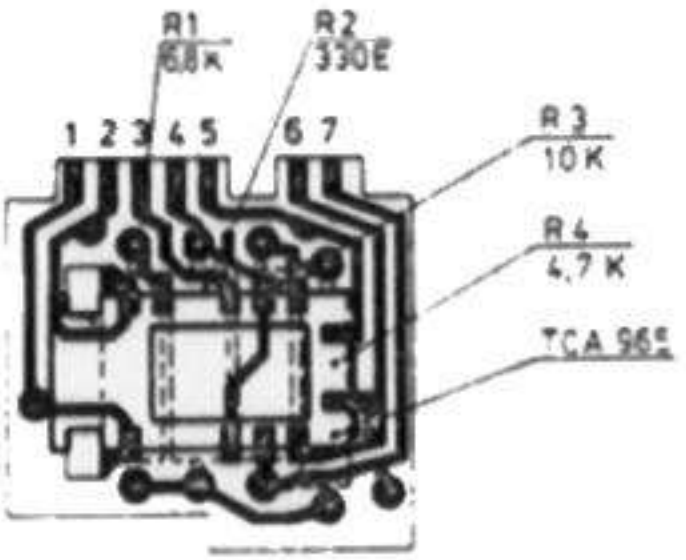


Fig. 5

Indicator PCB
10600 60230



Repair instructions
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1. Stop for slip hook broken off on body.

a) Slide the sliding cover, Fig. No. 5, as far as it will go onto the camera and latch into the slip hook, Fig. No. 21.

b) Centre the slip hook, Fig. No. 21, with respect to the camera.

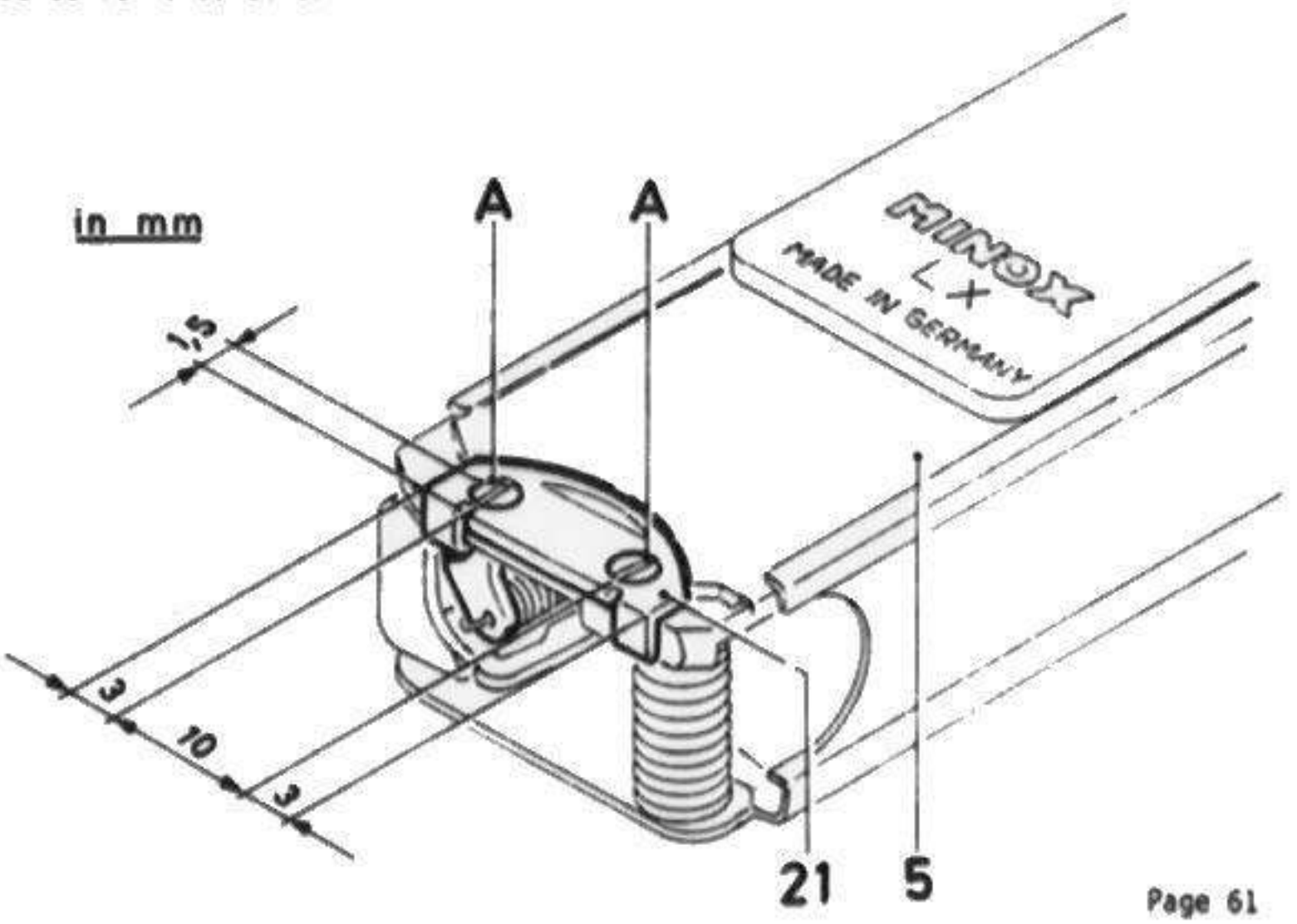
c) Transfer the drilling dimensions from the sketch to the slip hook and mark with a centre punch.

d) Drill two holes with a drill 0.8 mm diameter sign through the slip hook and the body, Fig. No. 313.

e) Redrill the two holes in the slip hook with a 1.1 mm ∅ drill.

f) Cut two threads in the holes in the body using a thread tap M 1.

g) Fasten slip hook with two screws A (countersunk screw M 1 x 4 mm, Part No. 00000 30042). Before screwing in the screws, countersink the two holes in the slip hook for the head of the screws using a min. 1.7 mm ∅ drill for 90° countersinks. Treat the threads of the screws with locking compound "Loctite Type 259" (blue) or with adhesive "Sicomet 85".



SERVICE BULLETIN No. 1
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We should like to point out two modifications in particular:

1. Travel limitation of the DIN-ASA button

The travel of the DIN-ASA button (Fig. No. 9) must be adjusted so that the thrust plate (Fig. No. 11) projects 0.4 to 0.45 mm beyond the sliding cover support. To perform the adjustment, introduce the washer, Part No. 00000 31134, which is inserted, if required between the F button and the sliding cover.

The washer is not shown in the illustration on page 1. It is merely included in the Spare Parts List on page 2 after Fig. No. 9.

2. Freedon of movement of the focus scale

The focus scale (Fig. No. 115) must not scrape on the cover plate (Fig. No. 101), but must turn easily and evenly. To perform the adjustment, introduce the washer, Part No. 00000 31133, which is inserted, if necessary, between the slide plate (Fig. No. 114) and the focus scale.

The washer is not shown in the illustration on page 5. It is merely included in the Spare Parts List on page 6 after Fig. No. 114.

The Technical Documentation for the MINOX LX from 1979 in German is now no longer valid.